

## **EXHIBIT H**

### **WORKER HEALTH AND SAFETY PLAN**

**WORKER HEALTH AND SAFETY PLAN  
FOR  
CLOSURE CONSTRUCTION  
AT  
SESI PROPERTY  
OATY MESA  
SAN DIEGO COUNTY, CALIFORNIA**

**PREPARED FOR:**

**Coordinating Committee  
United States District Court  
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Principal**

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## OVERVIEW

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This Health and Safety Plan (HSP) has been developed for use during landfill closure activities at the Sesi Property portion (Site) of the former Tripp Salvage Landfill. The Site is located on the west side of Cactus Road, between Otay Mesa Road and Airway Road, in the Otay Mesa area. The site location is shown on Figure H-1 - Site Location Map.

Proposed project activities include the implementation of a selected remedial action, consisting of the installation of an engineered cap to cover the landfill wastes in-place. This method of sealing the waste was selected as the most appropriate alternative for the Site as a result of preparation of a Removal Action Workplan (RAW) for the Site by ENV America.

The purpose of this document is to provide detailed information regarding anticipated Site health and safety matters, and to establish policies and procedures adequate to protect Site workers, the public, and the environment from the predicted Site hazards. This HSP is based, in part, on the best available health hazard information to date. It should be recognized, however, that one or more sections of this HSP may not apply or may require modification in the event the anticipated conditions at the Site change or do not exist. A copy of this HSP will be available at the Site for the duration of all phases of work involving contaminated or potentially contaminated soil and debris.

The following documents were used in preparing this Plan:

- 1) Occupational Safety and Health Guidance Manual for Hazardous Waste Site Activities, National Institute for Occupational Safety and Health (NIOSH), Occupational Safety and Health Administration (OSHA), U.S. Coast Guard (USCG), and U.S. Environmental Protection Agency (EPA), Publication No. 85-115, October 1985.
- 2) Draft Site Safety Plan Outline and Guidance for Site Assessment or Site Mitigation Project, Department of Health Services, Toxic Substances Control Division (DHS, TSCD), August 1988.

- 3) U.S. Department of Labor, Occupational Safety and Health Administration (OSHA), Hazardous Waste Operations and Emergency Response; Final Rule, 29 CFR, Part 1910.120 (March 6, 1989).
- 4) U.S. Department of Labor, Occupational Safety and Health Administration (OSHA), Code of Federal Regulations, Title 29 (29 CFR), Labor, Part 1910.
  - Subpart C--General Safety and Health Provisions
  - Subpart E--Means of Egress
  - Subpart G--Occupational Health and Environmental Control
  - Subpart H--Hazardous Materials
  - Subpart I--Personal Protective Equipment
  - Subpart K--Medical and First Aid
  - Subpart L--Fire Protection
  - Subpart Z--Toxic and Hazardous Substances
- 5) State of California, Department of Industrial Relations, Division of Occupational Safety and Health (Cal-OSHA), California Code of Regulations (CCR), Title 8, General Industry Safety Orders and Construction Safety Orders:
  - Section 5155--Airborne Contaminants
  - Section 3215--Means of Egress
  - Section 3203--Injury and Illness Prevention Program
  - Section 3301--Use of Compressed Air or Gas
  - Section 4650--Storage, Handling, and Use of Cylinders
  - Section 5097--Allowable Exposure (Noise)
  - Section 5141--Control of Harmful Exposure to Employees
  - Section 5144--Respiratory Protective Equipment
  - Section 5192--Hazardous Waste Operations and Emergency Response
  - Section 1532.1--Lead
  - Article 10--Personal Safety Devices and Safeguards
- 6) Registry of Toxic Effects of Chemical Substances 1981-1982 with subsequent supplements, U.S. Department of Health and Human Services, Public Health Service, Center for Disease Control, National Institute for Occupational Safety and Health.
- 7) Dangerous Properties of Industrial Materials, Sixth Edition, 1984, N. Irving Sax.



- 8) Handbook of Toxic and Hazardous Chemicals, 1981, Marshall Sittig.
- 9) Casarett and Doull's Toxicology, The Basic Science of Poisons, 1986, Curtis D. Klaassen, Ph.D., et al.
- 10) Threshold Limits Values and Biological Exposure Indices for 1992-1993, American Conference of Governmental Industrial Hygienists.
- 11) Documentation of Threshold Limit Values, 1986, American Conference of Governmental Industrial Hygienists.
- 12) Hamilton and Hardy's Industrial Toxicology, 1983, Asher J. Finkel.
- 13) Chemical Hazards of the Workplace, 1988, Nick H. Proctor, Ph.D. and James P. Hughes, M.D.
- 14) U.S. EPA Standard Operating Safety Guides, EPA Office of Emergency Response, Hazardous Response Support Division, Edison, New Jersey.
- 15) Guidelines for the Selection of Chemical Protective Clothing, American Conference of Governmental Industrial Hygienists, A.D. Little, et. al., 1983.
- 16) Occupational Safety and Health Guidance Manual for Hazardous Waste Site Activities, U.S. Department of Health and Human Services, Public Health Service, Centers for Disease Control, National Institute for Occupational Safety and Health, October 1985.
- 17) Pocket Guide to Chemical Hazards, U.S. Department of Health and Human Services, Public Health Service, Centers for Disease Control, National Institute for Occupational Safety and Health, June 1990.
- 18) American Conference of Governmental Industrial Hygienists (ACGIH), 1989. Documentation of the Threshold Limit Values and Biological Exposure Indices, Sixth Edition.

## 1.0 INTRODUCTION

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This Health and Safety Plan (HSP) outlines procedures and controls to minimize physical hazards and chemical exposures associated with implementation of a Removal Action Workplan (RAW) at the Sesi Property portion (Site) of the former Tripp Salvage Landfill. The Site is located on the west side of Cactus Road, between Otay Mesa Road and Airway Road, in the Otay Mesa area. The site location is shown on Figure H-1 - Site Location Map. The general layout of the Site is shown on Figure H-2 - Site Plan.

Proposed project activities include the implementation of a selected remedial action, consisting of the installation of an engineered cap to cover the landfill wastes in-place. This method of sealing the waste was selected as the most appropriate alternative for the Site as a result of preparation of a Removal Action Workplan (RAW) for the Site by ENV America.

The project will be implemented on behalf of Coordinating Committee, appointed by the United States District Court for the Sesi Property. The HSP is intended to inform all field personnel, including contractors and subcontractors of the potential hazards on the Site. However, each contractor or subcontractor must assume direct responsibility for its own health and safety.

The Sesi Property accepted auto-shredder wastes and burn dump ash. The project was developed to carry out a removal action which provides for the protection of human health and safety, and the environment. Removal actions refer to cleanup and/or other measures to prevent, minimize, or mitigate the affects of the hazardous substances release (HSC §25325).

It should be noted that this HSP is a dynamic document that may undergo change or revision, based upon varied Site conditions and/or modified work activities. However, no significant change will be made without advance notification and approval from the designated Health and Safety Officer and from appropriate regulatory personnel. Any notable changes to the HSP will be handled by means of written addenda.

## 2.0 BACKGROUND INFORMATION

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### 2.1 Nature of Impact

The chemicals of concern identified in the ash and the auto-shredder waste are copper and lead. The WET-soluble concentrations of the ash exceed the STLCs for copper and lead, but the total copper and lead concentrations in the ash are below the TTLCs for these metals. The WET-soluble concentrations of the auto-shredder waste exceed the STLCs for copper and lead, and the total copper and lead concentrations in the auto-shredder waste exceed the TTLCs for these metals. The ash has been classified as a nonhazardous waste (DTSC, 1996), and the auto-shredder waste is a special waste and can be disposed of at a Class III landfill (Sections 66261.120 and 66261.126 of Title 22, CCR). The potential exposure pathways for these COCs are airborne particulates, surface soil, surface water, and groundwater.

Considering the appearance of the ash, its chemical analysis results, and its origins, ENVIRON (ENVIRON, 1998), believed that the ash encountered at the Barnhart and Dantzler properties, located adjacent and to the northeast of the Sesi Property, is from a single wastestream. Furthermore, ENVIRON believed that both the ash and the auto-shredder wastes at the Bernhart/Dantzler site are from the same wastestreams as those of the ash and the auto-shredder waste at the Sesi Property, respectively.

Relatively elevated concentrations of benzene, PCE, arsenic, and lead have been detected in a groundwater monitoring episode performed by ENV America at the Sesi Property, near the southern boundary of the Site.

### 2.2 Summary of Remediation Procedures

In the RAW, ENV America recommended a clay/vegetative cap remedy for the ash and the auto-shredder waste at the Site. The primary purpose of the cap is to practically eliminate runoff of the ash and the auto-shredder waste from the Site. The cap will also substantially reduce infiltration of surface water into the groundwater. This alternative is effective because it minimizes residual risks and maximizes long-term protection, minimizes short-term impacts, and increases the speed with which protection is achieved. This alternative is technically feasible and readily available. Long-term groundwater monitoring may be required by the agencies. This alternative provides an overall protection of human health and the environment, and meets NCP relevant criteria.

The proposed final cover system for the surface of the waste fill consists of a minimum 2-foot-thick foundation layer, a minimum 1-foot-thick low permeability (permeability less than  $1 \times 10^{-6}$  cm/sec) layer, and a minimum 1½-foot-thick top vegetative layer. The final cover will be placed by means of standard earth-moving equipment such as front-end loaders, scrapers, blades, and backhoes.

### **3.0 KEY PERSONNEL - RESPONSIBILITIES AND TRAINING**

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The following key personnel have been or will be assigned to perform or oversee the field work at the Site. The roles and responsibilities of key personnel are described below.

#### **3.1 ENV America Management**

As a representative of ENV America, the following individual is identified as the key contact for this project:

S. "Sean" Shahin, P.E.	Telephone	(949) 453-9191
President and Principal Engineer	Pager	(949) 637-0116

Mr. Shahin will serve as Project Director for ENV America and will ensure all necessary support for project activities, will perform project oversight, and will direct overall site activities.

#### **3.2 Site Health and Safety Officer**

James A. Larwood, C.E.G.	Telephone	(949) 453-9191
Project Geologist	Pager	(949) 637-0848

Mr. Larwood, the Health and Safety Officer, will be responsible for reviewing and approving the H&S Plan. He will provide health and safety information and assistance to the Project Manager and other project personnel, as necessary. The Health and Safety Officer will have the primary responsibility for ensuring personnel health and safety, correcting improper conditions, and following safety practices.

#### **3.3 Work Parties**

Each member of the work parties has the responsibility to read the HSP and understand his assigned tasks and how to perform such tasks in accordance with the HSP. The work party members shall inform their supervisors of any unforeseen health and/or safety hazards, symptoms of exposure, malfunctioning equipment, identification of previously unknown or unanticipated waste or contamination, or other unanticipated conditions.

The safe and efficient implementation of this HSP requires teamwork and the cooperation of all employees. Employees who refuse or fail to follow the standards set forth in this HSP are subject to disciplinary action, which may include discharge from the Site. In all cases not specifically mentioned, employees are expected to use good judgment and shall refer all questions to appropriate supervisors and health and safety personnel.

### **3.7 Subcontractors:**

Individual subcontractors are responsible for assigning specific duties to their employed persons determined to be qualified for the assignments and for allocating the time, facilities, equipment (including all personal protective equipment [PPE] required), and funds necessary for the successful and safe completion of the project in accordance with this HSP. Senior management of each subcontractor shall conduct sufficient project oversight to assure that their personnel are adequately performing their assignments and that the allocated resources are sufficient to allow the project to be completed in a safe manner. Whenever deficiencies are noted, the subcontractor shall take appropriate corrective and/or disciplinary action. Each subcontractor also has the responsibility to ensure that all of its employees are properly trained in accordance with all applicable regulations. Each contractor or subcontractor must assume direct responsibility for its own health and safety.

The subcontractors are invited to review this plan for their own use during the project. If adopted, documentation will be submitted to ENV America specifying the subcontractor's intent to comply with the requirements of this plan, and that the subcontractor accepts all associated liability for their employees health and safety.

## 4.0 JOB HAZARD ANALYSIS

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### 4.1 Exposed Personnel

During predictable Site operations which would include Site inspections, soil excavation and grading, soil sampling, and reconstruction efforts, the following job classifications may be present:

- Regulatory personnel
- Responsible Party representatives
- Project Management personnel
- Site Manager
- Site Safety Officer
- Equipment Operator
- Scientist/Engineer
- Technician
- Laborer
- Truck driver

### 4.2 Primary Health Hazards

This subsection contains information concerning the primary health hazards of the chemical substances known or suspected to exist on the subject Site. Each of the job classifications indicated above may potentially be exposed to one or more of the health hazards listed during the course of work. The primary health hazard(s) associated with exposure to these substances are provided in Exhibit A - Chemicals That May Exist in the Site Soil. Applicable employee 8-hour permissible exposure limits are also indicated in this exhibit.

The field activities anticipated at the Site may present potential chemical hazards. However, as the shredder and ash is to be covered, and not really excavated, the chemical hazards are anticipated to be relatively minimal. Actual exposures to this hazard is dependent on the specific work task and location, weather conditions, level of protection utilized and personnel work habits. Control of these hazards shall be accompanied through hazard identification, training, the use of PPE, air and medical monitoring and supervision of Site activities.

#### **4.2.1 Estimate of the Level of Health Risks**

Due to the placement of a cover over the impacted materials at the Site (i.e., shredder waste and ash), the potential for human exposure to contaminants is minimal. However, exposures may occur as a result of the release of vapors or dust during intrusive activities (such as trenching and excavations) involving contaminated materials. During excavation activities, dust control may be necessary to minimize any release of contaminated soil to become airborne.

#### **Action Levels**

Soil contaminant concentrations collected from previous assessments was utilized to determine dust based action levels and provide guidance in the selection of appropriate personal protective equipment. These action levels apply to both the volatile soil component and to those contaminants which may travel through the air with the soil particles.

Personnel involved in work on the Site will initially use Personal Protection Equipment (PPE) meeting EPA Level D (modified) protection, as described in Section 7.0 of this H&S plan. To minimize the potential for worker exposure and community impact, all Site operations will be stopped when a direct reading of organic vapors is greater than 5 units above background in the work area or the workers breathing zone and sustained for more than 1 minute. Work will also be stopped if dust levels exceed 5.0 mg/m<sup>3</sup> in the worker breathing zone (WBZ) or if an odor is detected at a significant level.

If sustained direct reading measurements occur, work will be halted as defined above. If the results of continued monitoring exceed the levels established in Table 1 - Action Levels and Action to Be Taken, the Site Manager will enter the area (in EPA Level C Protection) and monitor or obtain a sample of the contaminated soil and air for laboratory analysis to determine the exact nature of contaminants. Based on the results of this analysis, the action levels established in Table 1 may be changed via an amendment to this H&S plan.

In the event that persons inside the work zone are required to wear Level C respiratory protection, periodic monitoring at the downwind perimeter of the work zone will be performed to ensure that downwind personnel breathing zone levels, do not exceed those defined in Table 1 of this H&S plan for Level D work.



Note that preparation of this HSP was based, in part, on the chemical compounds identified through laboratory analysis, predictable byproduct compounds, and other hazardous materials that are expected to exist at the Site. If other chemical substances are later identified on the Site, then additional health hazard summary information shall be included with this Plan as an addendum.

The applicable permissible exposure limits are defined by the State of California, Department of Industrial Relations, Division of Occupational Safety and Health (Cal-OSHA), in the volume identified as the California Code of Regulations (CCR), Title 8, General Industry Safety Orders, Section 5155, or other sections. The majority of permissible exposure limits represent time-weighted average values based on an 8-hour work day, 40 hour work week. Other exposure limits are expressed as short term exposure limit (STEL) values which, generally, represent limits not to be exceeded for time periods longer than 15 minutes. Certain substances have a "Skin" notation following the exposure limit which dictates that the overall exposure to a substance is enhanced by skin, mucous membrane and/or eye contact exposure. Some substances have a ceiling limit, designated by the letter "C" which shall not be exceeded at any time during a work shift.

#### **4.3 Physical Hazards**

This subsection contains information concerning the primary safety issues posed by known or potential physical hazards on the Site. Each of the job classifications indicated above may potentially be exposed to one or more of these physical hazards listed during the course of work. Many of these hazards will appear obvious to experienced Site personnel and, therefore, exhaustive explanations of each have not been provided with this HSP. Brief descriptions of the expected primary physical hazards are provided below with personal protective equipment or other control requirements and applicable Cal-OSHA regulations.

Physical hazards at this Site may be associated with excavation, grading, and backfilling which may result in disturbance of utilities, eye and skin contact hazards, tripping, falling or slipping during Site activities, equipment traffic, heat stress, and noise.

##### Utility Hazards

Electrical cables, gas lines, water lines, and unknown objects may be located underground at the Site. The Contractor shall notify Underground Service Alert of the intent of soil remediation at least 48 hours prior to the start of field operations. All the utilities shall be disconnected at the property line. Therefore, no hazard will be present due to the live utilities on the property.

### Excavation

Most of the planned excavation is limited in depth. Only selected areas will be excavated to relatively deep levels. Physical hazards include noise, dust, and construction equipment. Measures discussed in the following sections have been incorporated into the soil remediation plan to protect the personnel at the Site.

Any excavation more than 4 feet in depth will be handled according to Cal-OSHA requirements discussed in Section 4.3.7.

### Backfill and Compaction

Similar physical hazards associated with excavation should be considered for backfill and compaction operation and will be handled according to the procedures indicated in the following sections.

#### **4.3.1 Eye/Face Protection**

Impact resistant safety glasses shall be worn as necessary to protect against flying particulates or projections. Appropriately shaded lenses shall be used outdoors to protect against injurious rays (T8, CCR, 1516 and 3382).

#### **4.3.2 Head Protection**

American National Standards Institute (ANSI), approved hard hats shall be worn at all times at the Site.

#### **4.3.3 Foot Protection**

During all phases of work, boots or shoes having steel reinforced toe and shank shall be worn to protect against falling objects and crushing or penetrating actions. Metatarsal guards may be worn if protection to top of foot is required. Other types of foot protection may be required for work in wet locations.

#### **4.3.4 Equipment Operation**

Seat belts shall be provided on all equipment where rollover protection is installed and employees shall be instructed in their use. Only those individuals trained in safe operation and authorized by the employer may operate such equipment. All heavy equipment operators shall provide proof of current applicable certification/license (T8, CCR, Sec. 3653, 3660, 3664).

#### **4.3.5 Equipment Failure**

All equipment shall be inspected and tested before use. All equipment shall be maintained by qualified persons in accordance with manufacturers' specifications. Any modifications shall be made in accordance with good engineering practice. Malfunctioning equipment shall be tagged and locked until repairs can be made. Machinery and equipment components shall be designed, secured, or covered to minimize hazards caused by breakage, release of mechanical energy, or other condition which may cause injury (T8, CCR, Sec. 3328).

#### **4.3.6 Underground Utility Lines**

The Contractor shall contact Underground Service Alert to define utility locations at each property boundary. All the utility lines including electric, gas, and water shall be disconnected prior to initiating the remediation. Upon completion of remediation and reconstruction, the utilities shall be reconnected and tested. Pilot lights of all gas appliances shall be reignited.

#### **4.3.7 Excavation and Trenching**

All excavation work shall be performed in compliance with the regulations on excavations, trenches, and earthwork (T8, CCR, Article 6), the Occupational Safety and Health Administration (OSHA) excavation regulations, 29 CFR 1926.650, and the ENV America procedure for excavations.

No entry will be allowed inside trenches or excavated areas which are more than 5 feet deep. For trenches and excavations which are over 5 feet deep, visual inspections will be performed from outside of the trench or excavation.

In the event that entry will be required into any trench or excavation 5 feet or deeper, the Contractor must possess a valid Cal-OSHA excavation/trenching permit and provide notification to the nearest district office of the proposed work project. This notification can be made by telegram, facsimile, letter or telephone call, indicating the location of the project, date, and time the work activity is to commence.

Several provisions of Subchapter 4, Article 6 (Excavation) apply to work in excavations less than 5 feet deep in which personnel shall work. These include:

1. The employer shall provide a means of egress from trench excavations which are 4 feet deep or greater so as to require no more than 25 feet of lateral travel for employees [8 CCR 1541 (c)(2)];
2. The employer shall test the atmosphere in excavations 4 feet deep or greater where a hazardous atmosphere exists, or has the potential to exist [8 CCR 1541 (g)(f)(A)]; and,
3. Employer shall protect employees from cave-ins by adequate protective systems except when the excavation is made in stable rock or the excavation is less than 5 feet deep and examination of the ground by a competent person provides no indication of a potential cave-in [8 CCR 5141.1 (a)(P)(A)&(B)].

In addition to the above, the following procedures shall also be implemented.

- Whenever possible, workers will not enter trenches or excavations. When entry is required, standby personnel will be present to respond in the event of an emergency.
- Stop logs or other barriers will be used to prevent vehicles from rolling into open trenches or excavation pits.
- Sources of vibration and heavy objects or equipment will not be situated on the edge of an excavation unless steps are taken to ensure the stability of the excavation wall.
- Water will not be allowed to accumulate in trenches and excavations.
- Excavated materials will be stored at least 2 feet from the edge of the trench or excavation.

#### **4.3.8 Confined Space Entry**

All trenches/cavities onsite shall be considered confined spaces and shall be entered only following the protocols identified in the OSHA confined space entry regulation (T8, CCR, Article 108), 29CFR 1910.146.

There are two types of confined spaces: non-permit required confined space and permit-required confined space. Non-permit required confined space is defined as a confined space that does not contain or, with respect to atmospheric hazards, have the potential to contain any hazard capable of causing death or serious physical harm (Title 8 § 5157(b)). Permit required confined space (permit space) refers to a confined space that has one or more of the following characteristics:

- (1) Contains or has a potential to contain a hazardous atmosphere;
- (2) Contains a material that has the potential for engulfing an entrant;
- (3) Has an internal configuration such that an entrant could be trapped or asphyxiated by inwardly converging walls or by a floor which slopes downward and tapers to a smaller cross-section; or
- (4) Contains any other recognized serious safety or health hazard.

According to § 5157(b), a hazardous atmosphere refers to an atmosphere that may expose employees to the risk of death, incapacitation, impairment of ability to self rescue, injury or acute illness from one or more of the following causes:

- 1) flammable gas, vapor or mist in excess of 10 percent of its lower flammable limit (LFL);
- 2) airborne combustible dust at a concentration that meets or exceeds its LFL;
- 3) atmospheric oxygen concentration below 19.5 percent or above 23.5 percent;
- 4) atmospheric concentration in excess of the permissible exposure limit [note: an atmospheric concentration of any substance that is not capable of causing death, incapacitation, impairment of ability to self-rescue, injury or acute illness due to its health effects is not covered by this provision]; or
- 5) any other atmospheric condition that is immediately dangerous to life or health.

Based on the available information none of the "hazardous atmosphere" criteria identified in Title 8 § 5157(b) will exist in the excavation area and that work activities in the excavations may be effectively conducted under non-permitted confined space entry procedures. As required by § 5157 (c)(6), should conditions in the non-permit confined space change from those outlined above, the SSO will reevaluate the space and, if necessary, reclassify it as a permit-required confined space.

#### **4.3.9 Protection from Moving Machinery Parts**

Guards are required on machines, parts, and components which create hazardous revolving, reciprocating, running, shearing, punching, pressing, squeezing, drawing, cutting, rolling, mixing, or similar action, including pinch points and shear points, if not guarded by the frame or the machine or by location. All machine guards shall be appropriate for the hazards involved, secured in place, constructed of substantial material, and have surfaces free of hazardous projections; guards shall be provided with hinged or removable sections where it is necessary to change belts, make adjustments, or for the administration of lubricants. In addition, personnel shall avoid the entanglement of loose clothing, jewelry, and long hair.

Machinery or equipment capable of movement shall be stopped and the power source de-energized or disengaged, and if necessary, the movable parts shall be mechanically blocked or locked to prevent inadvertent movement during cleaning servicing, or adjusting operations; if machinery must be able to move during servicing, use extension tools to protect employees from the movement; controls shall be locked in the "off" position and marked with accident prevention signs and/or tags (T8, CCR, Sec. 3314).

#### **4.3.10 Slips, Trips and Falls**

Personnel shall attempt to minimize the potential for slips, trips, falls by providing clear footing. They shall be aware of uneven terrain and existing ground level piping and conduit, maintain good housekeeping in the area. Permanent roadways, walkways, and material storage areas shall be maintained free of dangerous depressions, obstructions, and debris (T8, CCR, Sec. 3273).

#### **4.3.11 Back Injury**

Extreme caution shall be exercised during operations involving the manual handling or lifting of heavy objects. Employees shall be instructed to follow the "How to Lift" guidelines found in T8, CCR, Sec. 1938 of the Construction Safety Orders.

#### **4.3.12        *Fire***

Tobacco smoking shall be limited to a designated smoking area determined by the Project Manager or Site Safety Officer. Smoking shall be prohibited during fueling operations, if any. Hot work, including welding, shall not be performed in potentially flammable atmospheres without prior monitoring using a combustible gas indicator (CGI). Instrumentation used in potentially flammable atmospheres shall be rated intrinsically safe for Class I atmospheres. Equipment shall be shut down during fueling and, as appropriate, equipment shall have spark arrestors.

#### **4.3.13        *Compressed Gas Cylinders***

Such vessels, if required, shall be secured and used with the manufacturer's recommended valves and fittings; unused cylinders shall be secured and capped.

#### **4.3.14        *Noise***

The use of motorized equipment as well as handheld power tools on this project, pose a potential for exposure to noise levels above the levels considered safe by OSHA.

Monitoring for occupational noise exposure shall be conducted for each representative task which involves use of a powered tool or equipment, and whenever the Site Manager deems such monitoring is necessary.

A portable handheld Type III Sound Level Meter (SLM) shall be used for surveying general work areas. All noise measurements shall be taken in the "Hearing Zone" of the individual being monitored (i.e., within a radius not to exceed 12 inches from the ear closest or in most direct proximity to the noise source). All measurements used for comparison with compliance noise levels shall be made on the A-weighted scale.

When noise monitoring data shows levels equivalent to 85 dBA or a higher TWA for an 8-hour work shift, hearing protection will be required as per the OSHA standard for occupational noise exposure, 29 CFR 1910.95.

"Hearing Protection Required" areas may be designated by the Site Manager where noise levels may or may not exceed the 85 dBA TWA action level, or in areas where work has commenced but monitoring has not been conducted and noise levels may be expected to exceed the 85 dBA TWA action level.

Designated employees, whose job assignments require them to be in the vicinity of high noise levels, shall not remain in the area when not required.

Equipment operation shall be limited to the hours of 8:00 A.M. to 5:00 P.M., Monday through Friday. Occasional non-equipment based activities may be conducted from 5:00 P.M. to 7:00 P.M. during weekdays and 9:00 A.M. to 1:00 P.M., on Saturday. The occasional non-equipment based activities include general Site cleaning and similar tasks.

#### **4.3.15      *Heat Stress***

Heat stress in workers is a potential concern at the Site. Although the use of protective equipment will reduce the risk of exposure to chemical hazards, the protective equipment may contribute to the potential for workers to experience heat related illnesses. Workers wearing a Tyvek suit with boots, gloves, hard hat and half-face respirators or dust masks may be exposed to temperatures that are elevated above the ambient levels. Recognized forms of heat stress and the associated symptoms are:

- Heat Rash can be caused by continuous exposure to hot and/or humid air. The condition is characterized by a localized red skin rash and reduced sweating.
- Heat Cramps can be caused by profuse perspiration with inadequate fluid intake and salt replacement. This condition is characterized by muscle spasm and pain in the extremities and abdomen.
- Heat Exhaustion, a mild form of shock, can be caused by substantial physical activity in heat and profuse perspiration without adequate fluid and salt replacement. The symptoms include weak pulse; shallow breathing; pale, cool, moist skin; profuse sweating; dizziness; and fatigue.
- Heat Stroke, the most severe form of heat stress, can be fatal. The symptoms include red, hot, dry skin; body temperature of 105°F or greater; no perspiration; nausea; dizziness and confusion; strong rapid pulse; coma; and death.

All Site personnel shall be responsible for reporting these symptoms, in either themselves or in another Site worker, to the Site Safety Officer.



## Protective Measures

In order to minimize the potential for heat stress at the Site, the following protective measures will be implemented by the Site Manager if ambient temperatures exceed 70 degrees F.

- 1) The initial work/rest cycle will include 2 hours of work followed by 15 minutes of rest. Liquids will be available to all workers during rest periods.
- 2) Workers will wear light-weight clothing under their Tyvek suits.
- 3) A canopy will be set up at the Site in order to provide shaded areas. Workers will spend their rest periods in these shaded areas.
- 4) NIOSH recommends that workers wearing Tyveks receive physiological monitoring at regular intervals when the ambient air temperature approaches or exceeds 70 degrees F. Physiological monitoring will consist of the following measurements (taken during prescribed rest periods):
  - Measure heart rate (HR) as early as possible in the rest period and record.
  - Check for physical reaction related to heat stress. Physical reactions include fatigue, irritability, anxiety and decreased concentration, dexterity or movement.
  - Check for other heat related problems, including heat rash, heat cramps, heat exhaustion and heat stroke, described above.

If the measured heart rate exceeds 110 beats per minute, or any of the above physical symptoms are noted, the work period will be shortened by 30%. Work may resume after the HR and physical condition of the worker have returned to normal. Similarly, the work period described above may be lengthened if the monitoring and physical signs of the workers suggest that the workers are not experiencing any heat related problems.

## 5.0 HAZARD RISK ASSESSMENT SUMMARY

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### 5.1 General

Because safety and protection of the public and the environment are of major concern, special procedures have been developed to conduct the activity in a safer manner using an appropriate environmental control. The elements considered for environmental control include the following:

- noise
- dust
- air emissions

Each of the elements are addressed in the following sections.

#### 5.1.1 Noise

To reduce the noise level during the Site remediation operation, equipment operation will be confined to limited hours as discussed in Section 4.3.14.

#### 5.1.2 Dust

Dust control measures were factored into the design of remediation. Major factors included in the design are as follows:

- The area graded will be managed for the purpose of dust control.
- The design includes providing an appropriate water source and plumbing so that adequate water supply can be provided for multiple activities at each Site. The water source may include a fire hydrant or water truck.

Detailed, continuous monitoring of dust levels is planned. Dust levels will be monitored continuously during excavation activities. Dust level controls of 50 µg/m³ have been planned with the assumption that if dust concentrations at the excavation are below 50 µg/m³, then at the property line the concentration will also be below the SCAQMD Rule 403 limit of 50 µg/m³. If the monitoring data indicates that dust levels are beyond the targeted levels, then additional engineering control measures will be implemented to reduce the dust level.

In the event that stockpiles of contaminated soil or surface excavations are left onsite overnight, the exposed portion shall be fully covered with plastic to reduce any dust emissions.

### **5.1.3 Air Emissions**

Based on the results of the sampling conducted during the Site investigation activities, air emissions of volatile organic hydrocarbons are not anticipated during remediation activities. Due to the physical characteristics of contaminants present at the Site, airborne dust emissions are potentially expected. By controlling the dust with the procedures discussed in Section 5.1.2, the emissions of any airborne contaminants will be significantly reduced to levels that pose no risk to the health of the public and remediation personnel.

The water spray used to control dust will also significantly reduce the emissions of any potential volatiles that may be present in the soil, although none are expected. The equipment proposed for the Site remediation has been manufactured within the past few years and it will be maintained properly so that exhaust emissions will be within acceptable standards.

Monitoring of excavations and the perimeter of Site activity will be conducted periodically using a flame ionization detector (FID) or a photoionization detector (PID). These instruments will be calibrated routinely according to the manufacturer's specifications. If sustained elevated readings are recorded during the remediation activities, then proper engineering control measures will be implemented to reduce the emissions of volatiles.

## **5.2 Low Risk Work Activities**

The following work activities at the Site are anticipated to involve low risk of exposure to chemical and physical hazards:

- Site inspections
- Soil sample collection

During these operations there will be minimal movement of soil or debris at the Site. Minimal generation of airborne contaminants will occur during these activities and primary hazards are associated with physical hazards such as slips, trips and falls.

### **5.3 Moderate Risk Work Activities**

The following work activities at the Site are anticipated to involve moderate risk of exposure to chemical and physical hazards:

- Soil Excavation
- Soil loading
- Excavation backfilling
- Reconstruction

During these operations there will be substantial movement of debris and soil, and movement of machinery parts and equipment. Increased generation of airborne contaminants may occur during these activities. Air monitoring will be conducted during these activities and will serve to indicate potential exposures and allow for modifications of work operations or protective measures to limit personnel exposures. Increased exposure to physical hazards will occur during these activities due to the handling of debris and use of equipment during operations. Procedures will be established to limit exposures to physical hazards to the extent feasible.

### **5.4 High Risk Work Activities**

No work activities at the Site are expected to involve high risk of exposure to chemical and physical hazards. No exposures to Immediately Dangerous to Life or Health (IDLH) or oxygen deficient atmospheres are anticipated. No work activities involving Level A protection are anticipated.

## 6.0 AIR MONITORING PLAN

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### 6.1 Personnel Exposure Evaluations

Exposure monitoring will be conducted to evaluate personnel exposure to the chemical and physical hazards anticipated for the project and to assist in implementing control measures to limit those exposures.

The exposure monitoring program will:

- Assess personnel exposure;
- Confirm the appropriateness of the selected level(s) of protection and indicate changes where necessary;
- Verify the effectiveness of engineering controls and work practices; and,
- Potential exposures for Site personnel will typically be on an intermittent basis. Exposures may occur as a result of the releases of the gases or dust during soil excavation activities. Exposures may occur through inhalation of vapors and dust and through direct skin or eye contact with vapors or dust.

Chemicals in Site soils may potentially consist of four types of compounds which can cause potential health effects, depending on the levels and types of exposures. The chemicals can be grouped as follows:

- Volatile Organic Compounds
- Metals

Specific information on these chemicals is presented in Exhibit A. The exposure monitoring program is based on previous Site characterizations and will be modified, if necessary, during the course of this project.

## **6.2 Equipment**

To assist in evaluating potential hazards, the Site Safety Officer should use the following equipment:

- Organic Vapor Analyzer (OVA) with a photo ionization detector (PID) or a flame ionization detector (FID); and,
- Portable dust monitor, such as a DataRAM or equivalent instrument

The Site Safety Officer shall ensure that all necessary monitoring equipment, in sufficient numbers, is available prior to work initiation. Other equipment deemed necessary by the Site Safety Officer prior to work initiation shall be obtained at his/her direction. The Site Safety Officer shall also ensure that these instruments are used only by persons who have had prior experience with their care, calibration, and operation and who know equipment limitations. An 11.7 eV bulb on the PID probe will be sufficient to detect all possible volatile constituents that may be present at the Site. No work shall be done unless this instrumentation is available and in proper working order.

## **6.3 Initial Monitoring**

A preliminary survey of existing air quality conditions for VOCs using a PID or FID and for dust using DataRAM or equivalent instrument will be performed at the outset of soil excavation activities to establish baseline levels.

## **6.4 Periodic Monitoring**

Periodic monitoring of onsite ambient contaminant concentrations of volatile organic compounds in the immediate vicinity of work activities will be performed using a PID or a FID. Dust levels generated during excavation activities will be monitored with the DataRAM or equivalent instrument. The Site Safety Officer will compare monitoring results with OSHA standards listed in Exhibit A to ensure that proper protection is provided. Action levels for the selection of personal protection is presented in Table 1.

#### **6.4.1 Ambient Dust Monitoring and Control**

Mini-Ram monitors will be set up at upwind and downwind locations from the work zone at the property lines. Monitoring will occur during all phases of excavation or soil disturbances. The extent of Site dust emissions monitoring and control will be determined based upon the South Coast Air Quality Management District (SCAQMD) rules. Dust control will also be performed as a method of limiting ambient concentrations of the contaminants such as metals. Dust control will be implemented when deemed necessary by the Site Manager or by dust monitoring results per Table 1. The Contractors should take every reasonable precaution to minimize emissions during all field activities.

SCAQMD rules limit fugitive dust levels at the property line to 50  $\mu\text{g}/\text{m}^3$  when determined as the difference between upwind and downwind samples collected over a period of five hours.

If dust suppression is utilized for contaminant control, it will be performed by lightly spraying or misting areas with water prior to disturbing Site soils. The use of water will be carefully monitored. Water usage shall not result in creating mud, ponding water or runoff.

#### **6.5 Perimeter Monitoring**

Perimeter monitoring will be conducted during excavation operations in order to demonstrate that community exposures to excavation emissions are negligible. The perimeter air monitoring will be conducted by ENV America, using a DataRAM dust monitor or equivalent instrument.

#### **6.6 Heat Stress**

If due to Site or weather conditions, the Site Safety Officer determines that a heat stress potential exists, then heart rate measurements shall be used to determine heat stress potentials. Such determinations shall be made at representative Site locations at least once per hour throughout the work shift(s) when heat stress potentials are expected to exist.

## **6.7 Maintenance and Calibration of Monitoring Equipment**

All monitoring equipment shall be maintained in accordance with the manufacturer's recommendations and shall be calibrated on a daily basis. Both the FID and PID shall be calibrated to a known concentration of hexane (in range of less than 100 ppm). Calibration of the direct reading field instruments shall be performed by the Site Safety Officer. Calibration of all industrial hygiene equipment will be performed immediately before and after use by the Site Safety Officer.



## 7.0 PERSONAL PROTECTIVE EQUIPMENT

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Personal protective equipment and safety requirements shall be appropriate to protect against the known and potential health hazards at the Site. Personal protective equipment (PPE) will be selected based on the contaminant type(s), concentrations in air (if any), or other applicable matrix, and the known route(s) of entry into the human body. In situations where the type of materials, their concentrations, or exposure potentials are unknown, a subjective decision regarding the assignment of personal protective equipment will be made by the Site Safety Officer. The Site Safety Officer may choose to upgrade or downgrade the required personal protective equipment, depending on work area conditions, airborne concentrations of contaminants, air temperature, or other factors.

The U.S. EPA levels of protection shall be described as follows:

- Level A: The highest level of respiratory, skin and eye protection.
- Level B: The highest level of respiratory protection, but a lesser level of skin protection.
- Level C: The same level of skin protection as Level B, but a lower level of respiratory protection.
- Level D: No respiratory protection and minimal skin protection.

Based on available information, the airborne concentrations of contaminants which may be encountered within the Exclusion Zone(s) during the various phases of work will be based on the effects used for dust control such as water and/or foam spray. The more effective the dust control measure, the lower level of protection is needed. Therefore, the following protocols shall be in effect:

All work will begin in Level D PPE. Upgrading or downgrading of respiratory protection shall be dictated by the Site Safety Officer, based on the dust levels measured during the excavation activities. As described in Section 6.4.2, respiratory protection will be upgraded if the dust levels exceed the OSHA PELs.

All workers and visitors shall maintain, as a minimum, Level D personal protection while outside and upwind of active Exclusion Zone(s).

All persons who have the potential for direct contact with contaminated soils or equipment shall be required to wear appropriate skin protection, in addition to the respiratory protective equipment which may be required. As appropriate, skin protection will include the use of Tyvek coveralls (or equivalent), nitrile gloves, and neoprene boots. Personal protective equipment openings shall be taped to provide closure at all times. If direct contact with liquid or sludge becomes apparent, then the Tyvek coveralls shall be polyethylene-coated spun bonded polyolefin, and latex inner gloves shall be used.

All workers whose predictable 8-hour time-weighted average exposure to noise equals or exceeds the Cal-OSHA action level of 85 dBA shall be provided and required to wear hearing protection during all operations where excessive sound levels are generated.

Due to changes in airborne concentrations of contaminants, moisture content in debris or other matrix, heat stress potentials, or other health or safety stress or hazard, levels of protection may be upgraded or downgraded by the Site Safety Officer. In such circumstances, levels of protection shall be assigned on a case by case basis. Changes of protection levels shall be documented with supporting rationale.

The Level B equipment shall include:

- Boots with steel toe and shank (neoprene, if high direct contact potential exists)
- Protective gloves, inner (surgical latex)
- Protective gloves, outer (nitrile)
- Protective gloves (leather, permissible if high direct contact potential does not exist)
- Coveralls (polyethylene-coated spun bonded polyolefin)
- Coveralls (uncoated spun bonded polyolefin, permissible if high direct contact potential does not exist)
- Hard hat
- Fullface pressure demand air-supplied respiratory protection

The Level C equipment shall include:

- Boots with steel toe and shank (neoprene, if high direct contact potential exists)
- Protective gloves, (nitrile)
- Protective gloves (leather, permissible if high direct contact potential does not exist)
- Coveralls (hooded, long-sleeved Tyvek)
- Hard hat
- Safety goggles

- Half-face air purifying respiratory protection with NIOSH/OSHA approved cartridges (organic vapor/HEPA)
- Ear plugs or muffs

The modified Level D equipment shall include:

- Boots with steel toe and shank (neoprene, if high direct contact potential exists)
- Protective gloves (nitrile)
- Protective gloves (leather, permissible if high direct contact potential does not exist)
- Coveralls (hooded, long-sleeved Tyvec)
- Hard hat
- Safety goggles
- NIOSH/OSHA approved dust mask
- Ear plugs or muffs

The Level D equipment shall include:

- Boots or work shoes (with steel toe and shank)
- Hard hat
- Safety glasses or goggles
- Gloves (leather or cloth if high direct contact potential does not exist)
- Ear plugs or muffs

All onsite personnel shall comply with the PPE requirements stated above.

## 8.0 WORK ZONES AND SECURITY MEASURES

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The area work zones will be clearly identified as appropriate with safety cones, flags, caution delineation tape and signs. The work zones shall include:

- Exclusion Zone (contaminated and active work areas)
- Contamination Reduction Zone and Corridor Support Zone

The anticipated locations of the work zones, the Contamination Reduction Corridor, equipment storage areas, rest areas, restroom facilities, and routes of exit will be determined on the first day of Site operations and documented in the Site Manager's Field Log. The Contamination Reduction Zone shall consist of the Contamination Reduction Corridor, and the areas for decontamination, equipment storage, sample storage, and contaminated personal protective equipment storage. The area of this zone shall not be larger than is necessary to allow for the completion of these functions. The Support Zone shall be outside of the Contamination Reduction Zone and shall be located upwind of the Exclusion Zone. A rest area shall be located in the Support Zone.

The Site Safety Officer may, under some circumstances, require that the work zones be relocated. In either case, the work zones will be reconfigured using the diagram presented in Exhibit B - Generic Schematic of the Work Zones, as a guideline.

Only authorized persons shall be permitted entry into the Site and those persons shall identify themselves to the Project Manager or Site Safety Officer.

## 9.0 DECONTAMINATION MEASURES

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As part of the system to prevent or reduce the physical transfer of contaminants by people and/or equipment from the subject area, procedures will be instituted for decontaminating all articles leaving the Exclusion and Contamination Reduction Zones. The Site Safety Officer shall oversee all decontamination procedures. Examples of such decontamination layouts for Level C and Level B protection are presented in Exhibit C - Decontamination Layouts. The procedures for decontamination are outlined below.

- All authorized visitors and personnel shall enter and leave the Exclusion Zone(s) via the Contamination Reduction Corridor(s).
- When operating under Level D conditions, visible soil and contamination shall be removed from boots and gloves.
- When operating under Level C conditions, outer gloves shall be removed and decontaminated with soap and water (and allowed to air dry in a Support Zone Area), or discarded in appropriately marked containers for disposal (if excessive wear, damage or contamination is observed upon inspection) as each individual steps from the Exclusion Zone to the Contamination Reduction Zone. Visible soil and contamination shall be removed from boots and inner gloves by washing with soap and water in a wading pool or other appropriate basin as each individual steps from the Contamination Reduction Zone to the Support Zone. Each individual shall remove protective clothing and the air purifying respirator cartridge(s) and place in appropriately marked containers for disposal as they step into the Support Zone. Air purifying respirators shall be dismantled, washed with warm water and soap, disinfected, and allowed to air dry in a clean Support Zone area. For more information, refer to Exhibit C.
- When operating under Level B conditions, outer gloves shall be removed and decontaminated with soap and water (and allowed to air dry in a Support Zone Area), or discarded in appropriately marked containers for disposal (if excessive wear, damage or contamination is observed upon inspection) as each individual steps from the Exclusion Zone to the Contamination Reduction Zone. Visible soil and contamination shall be removed from boots and inner gloves by washing with soap and water in a wading pool or other appropriate basin as each individual steps

from the Contamination Reduction Zone to the Support Zone. Each individual shall remove protective clothing and place in appropriately marked containers as they step into the Support Zone. Air-supplied respirators shall be dismantled, washed with warm water and soap, disinfected, and allowed to air dry in a clean area. For more information, refer to Exhibit C.

- The spent decontamination solutions shall be collected onsite in a suitable container and shall be handled as hazardous wastes pending analytical testing. The results of such analysis shall determine treatment or disposal options.
- All decontamination tools, brushes, sponges and the like, and used/soiled disposable personal protective equipment shall, unless shown otherwise, be considered contaminated and so treated. Such wastes shall be stored onsite in sealed DOT specification 17-H (open top) 55-gallon drums.
- Large equipment potentially contaminated during work activities in the Exclusion Zone should be decontaminated by brushing off all soil and debris. In the event it is deemed necessary, equipment may be decontaminated by washing. The rinsate from such cleaning procedures shall be collected, analyzed, and handled as hazardous waste pending receipt of analytical data. Such data shall determine treatment or disposal options. A record of such procedures showing equipment identification numbers shall be kept in a bound log.
- Workers/visitors will be required to wash thoroughly with soap and water prior to leaving the Site and will be instructed to remove work clothes and shower as soon as possible thereafter.
- Wash materials will be disposed of properly. All porous equipment which is believed to be contaminated shall be handled as such.

## 10.0 GENERAL SAFE WORK PRACTICES

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The general safe work practices that shall be followed during project work is outlined as follows:

- The subject work area will be restricted to authorized visitors and personnel. These individuals will be required to attend a tailgate safety meeting upon entering the subject area during which they will be informed of the various work zones and facilities, the health and safety hazards associated with their assigned work activities, control measures, the care and use of personal protective equipment, emergency action plans, and other pertinent information. Tailgate safety meetings will be conducted on a daily basis at the beginning of each shift. Attendance rosters will be recorded and maintained by the Project Manager or Site Safety Officer.
- All persons entering the Site will be required to identify themselves to the Project Manager or Site Safety Officer. Persons who have not attended a tailgate safety meeting on that day shall be required to do so with the Site Safety Officer or other authorized representative. Persons unfamiliar with the Site will be informed of Site hazards and instructed to avoid contact with contaminated surfaces, soils, sample materials, or related equipment, and, at the discretion of the Site Safety Officer, may be instructed to remain a minimum of 50 feet upwind of all active work areas.
- All persons entering the Contamination Reduction Zone and the Exclusion Zone shall do so at the Contamination Reduction Corridor while wearing the appropriate personal protective equipment (as applicable).
- Eating, drinking, chewing gum or tobacco, smoking or any other activity that increases the potential to ingest contaminated material is prohibited in all areas of the Exclusion and Contamination Reduction Zones.
- Any skin contact with contaminated or potentially contaminated surfaces, samples or equipment shall be avoided.

- Personnel shall use the "Buddy System" when performing Site duties. If work activities are required to be performed in Exclusion and Contamination Reduction Zones, communication and visual contact between members shall be maintained at all times.
- As appropriate, equipment will be bonded and grounded, and will be spark resistant.
- An NFPA approved, Class ABC fire extinguisher shall be available for use in the subject area during all working hours. If the travel distance to the extinguisher from any point in the area is greater than 50 feet, then additional fire extinguishers shall be furnished and strategically located so that the travel distance does not exceed 50 feet.
- A portable emergency eyewash station shall be strategically located in the work area. The eye wash station shall be capable of flushing both eyes simultaneously with copious amounts of water for a period of at least 15 minutes.
- Whenever feasible, all equipment and ground surfaces which will be in direct contact with contaminated soils shall be plasticized.
- Removal of materials from protective clothing or equipment by blowing, shaking, or any other means which may disperse contaminated materials into the air is prohibited.
- All hazardous wastes, raw materials, intermediates, products, mixtures, samples, contaminated personal protective equipment, or other contaminated materials which are removed from the subject Site shall be properly packaged, marked, labeled, accompanied by appropriate shipping papers and transported in accordance with all applicable Federal, state, and local regulations including, but not limited to, the California Code of Regulations, Title 22, and the Code of Federal Regulations, Title 49--Transportation.
- All soils which are believed potentially contaminated shall be placed in bins and covered.



- At the end of each working day and/or the work being performed, Site personnel shall restore the work area to the same degree of neatness as when work commenced.
- Site personnel must effectively barricade excavations, street openings, etc., as required by all applicable regulations.
- A first aid kit will be located onsite.
- Working hours for equipment are limited to 8:00 A.M. to 5:00 P.M. Additional hours between 5:00 P.M. to 7:00 P.M., have also been considered for non-equipment activities such as Site cleaning, etc.
- The hours of 8:00 A.M. to 5:00 P.M., are considered as daylight hours throughout the year. Therefore, no Site illumination is considered for outdoor daylight activities. The operational hours of 5:00 P.M. to 7:00 P.M., will either be canceled during the months with no daylight, or, adequate lighting will be provided for workers.
- If needed, onsite generators, located outdoors in designated areas, shall be used to supply power. The electrical cords will be encased in appropriate jackets to prevent tear and will be laid down in a pathway away from any equipment or other onsite activities. The lighting shall be provided with approved explosion-proof elements and will be strategically stationed away from the areas of activities, yet providing adequate lighting. Prior to use and periodically, all cables and lights shall be inspected to assure safe and continuous operation.
- All personnel will abide by the OSHA requirements set forth by 29 CFR 1910, Subparts O, "Machinery and Machine Guarding," Subpart P, "Hand and Portable Powered Tools and Other Hand-Held Equipment" and Subpart S, "Electrical." These OSHA requirements shall be attached to the Health and Safety Plan and shall be available for review by all onsite personnel.

## 11.0 SANITATION PROVISIONS

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Potable (drinking quality) water, hand washing, and toilet facilities shall be provided, and shall be maintained in a safe and sanitary manner. A minimum of one portable toilet facility shall be provided for every 20 onsite construction personnel. Hand washing facilities and drinking water will be provided at the decontamination station located at each stage of soil remediation.

## **12.0 STANDARD OPERATING PROCEDURES**

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### **12.1 Buddy System**

A minimum of two workers shall be on the Site at all times during all operations (with the exception of a routine Site inspection). The buddy pair(s) shall maintain visual or voice contact at all times.

### **12.2 Personal Protective Equipment**

All persons entering active work zones (or Exclusion Zones, if required) shall do so while wearing the prescribed personal protective equipment documented in Section 7.0 of this Health and Safety Plan. Such individuals shall be trained in the proper use, care and maintenance of this equipment, and shall have submitted to a physical examination by a licensed medical physician, and shall have been deemed physically fit to wear such equipment. Such equipment shall be inspected by the user prior to donning. Donned gloves and boots shall be taped to protective clothing to provide closure. All persons who are required to wear respiratory protection shall perform the necessary inspections pressure checks prior to entering the subject work zones. Workers should be aware of the potential for "breakthrough" for contaminants through respirator cartridges. Signs of breakthrough may include smelling, tasting, or experiencing respiratory irritation while wearing the respirator.

### **12.3 Emission Control**

Wet methods will be employed in order to limit dispersion of fugitive dust emissions. Site personnel shall abide by South Coast Air Quality Management District Rule 402 (Nuisance Dust) and Rule 403 (Fugitive Dust).

### **12.4 Air Monitoring**

Air monitoring, using direct reading instrumentation, shall be performed in employee breathing zones and, at the discretion of the Site Safety Officer, at varying Site area and perimeter locations.

## **12.5 Air Sampling**

Air sampling, using industrial hygiene sampling methods and laboratory analytical procedures, shall be performed in employee breathing zones and, at the discretion of the Site Safety Officer, at varying Site area and perimeter locations, if continuous elevated FID or PID readings are recorded.

## **12.6 Tobacco Smoking Policy**

Tobacco smoking shall be permitted only in a smoking area designated by the Site Safety Officer.

## **12.7 Observance of Unanticipated Hazardous Materials**

If unanticipated hazardous material(s) are observed or symptoms of distress are experienced by workers, the Site Safety Officer shall stop work activities and conduct an investigation. This individual has the authority to collect samples to ascertain the identity of the material(s).

## **12.8 Symptoms of Distress**

The Project Manager and Site Safety Officer shall periodically observe personnel for symptoms of distress. Indications of such adverse effects include:

- Changes in complexion, skin discoloration
- Signs of incoordination, changes in demeanor, disposition
- Excessive salivation, papillary response
- Changes in speech patterns

Field personnel are required to contact the Site Safety Officer upon experiencing ill effects such as:

- Headache
- Blurred vision
- Irritation to the eyes, mucous membranes, respiratory tract or skin
- Dizziness
- Heat stress

## **12.9 Heat Stress**

The Site Safety Officer shall be trained to recognize the symptoms of heat rash, heat cramps, heat exhaustion, and heat stroke. Utilizing the following procedures will help reduce the potential for workers to experience symptoms of heat stress:

- Provide plenty of liquids to replace loss of body fluids, including salt water solutions or commercial mixes such as Gatorade (registered product). Commercial mixes may be preferred by those individuals on low sodium diets.
- In order to evaluate the adequacy of this work/rest schedule, heart rate (pulse) determinations shall be made involving each worker as he/she leaves the active work zone (or Exclusion Zone, if required) and again approximately one minute after exit. If the exit pulse exceeds 0.7 (220 - age of the individual) or if the one minute pulse exceeds 110 beats per minute, then the worker will remain in the rest area until the pulse rate drops below 110 beats per minute.
- Portable showers and water hoses may be used to cool protective gear.

## **12.10 Daily Shutdown**

All equipment and materials shall be parked and/or stored in a safe location designated by the Project Manager.

## **12.11 Stop Work Orders**

The Project Manager, Site Safety Officer, or other authorized representative will stop all work at the Site in the event that it is determined upon inspection that continuation of work is likely to endanger any person or public and/or private property. Stop work orders may be issued by verbal command or written notice.

## 13.0 CONTINGENCY PLANS

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### 13.1 General

In the event of an emergency, the team member that observes this condition shall give an emergency alarm (three blasts of a vehicle horn). All unnecessary communications will cease and the member giving the alarm shall notify the Project Manager and Site Safety Officer of all pertinent information. Actions shall be directed by the Project Manager and Site Safety Officer. Actions to be taken will be dictated by the emergency. All injured personnel shall be taken to the designated local medical facility and all uninjured personnel shall remain in a safe area. If any emergency involving actual or suspected personnel injury occurs, the Site Manager or designated person will follow these steps. It is stressed that these steps be followed in sequential order:

1. Remove the exposed or injured person(s) from immediate danger;
2. Render first aid, if necessary, according to the rescuers training. Decontaminate affected personnel after critical first aid is given;
3. Obtain paramedic services or ambulance transport by calling 911 or the local emergency care medical facility indicated in Section 13.0. This procedure will be followed even if there is no visible injury;
4. Other personnel on the property will be evacuated to a safe distance until the Site Manager determines that it is safe for work to resume. If there is any doubt regarding the condition of the area, work will not commence until all safety issues are resolved;
5. At the earliest time practical, the Site Manager will contact ENV America's Health and Safety Officer and Project Manager giving details of the incident, and steps taken to prevent its reoccurrence; and
6. A written report of the incident will be forwarded to the ENV America Health and Safety Officer and the SCE Project Manager within twenty-four (24) hours following the incident.

All emergency actions as well as emergency and non-emergency accidents/injuries shall be documented by the Site Safety Officer, Project Manager, or other competent individual in accordance with all applicable regulations.

### **13.2 Decontamination During Emergencies**

Often during emergencies, the need to quickly respond to an accident or injury must be weighed against the risk to the injured party from chemical exposure. It may be that the time lost or the additional handling of an injured person during the decontamination process may cause greater harm to the individual than from the exposure that would be received by undressing that person without proper decontamination. This decision will be made by the Site Manager.

An additional consideration to include when bypassing decontamination of injured personnel, is the acceptance of contaminated personnel at emergency facilities. Many facilities will not accept contaminated personnel. If such personnel is accepted, Site response personnel shall accompany contaminated victims to the medical facility to advise matters involving decontamination.

### **13.3 Physical Injury**

Physical injuries can range from minor to life threatening. Life saving care shall be instituted immediately without considering decontamination. The outside garments can be removed (depending on the weather) if this does not cause delays, interfere with treatment, or aggravate the problem. Respiratory masks and backpack assemblies must always be removed. Fully encapsulating suits or chemical resistant clothing can be cut away.

If the other contaminated garments cannot be safely removed, the individual shall be wrapped in plastic, rubber, or blankets to help prevent contaminating medical personnel and/or the inside of ambulances. Outside garments are then removed at the medical facility. No attempt shall be made to wash or rinse the victim unless it is known that he has been contaminated with an extremely toxic or corrosive material that could also cause severe injury or loss of life. For minor medical problems or injuries, the normal decontamination procedure shall be followed.

### **13.4 Chemical Exposure**

Chemical exposure can be divided into two categories: 1) Direct contact, ingestion, or inhalation, and 2) Indirect contact through contaminated clothing or equipment. For inhalation exposure cases, treatment can only be performed by a qualified physician. If the contaminant is on the skin or in the eyes, first aid treatment consists of flooding the area with copious amounts of water. The Site Manager shall ensure that an adequate supply of water and a portable emergency eye wash are available, if necessary. When protective clothing is grossly contaminated, the person wearing it can be exposed to the contaminants. The contaminated clothing should be removed and the affected area rinsed. If exposure systems occur, the individual shall be transported to a medical facility for treatment.

### **13.5 Emergency Communication**

Exhibit D - Emergency Telephone Numbers and Hospital Location Map, lists the emergency medical, fire, law enforcement, and other agency and support telephone numbers to be used at this Site in the event of a catastrophic event or emergency. A plainly visible and legible copy of these emergency numbers will be posted by all onsite telephones. There will be at least one cellular phone onsite at all times.

In the event of a serious injury, emergency response shall be provided by immediately dialing 911. All non-seriously injured personnel will be taken to the designated local medical facility and all uninjured personnel will remain in a safe area. The emergency care medical facility nearest the subject Site is shown in Exhibit D and information provided as follows:

Scripps Memorial Hospital  
425 H Street  
Chula Vista, California  
(619) 691-7000

### **13.6 Spill Prevention Practice**

Site management will take the necessary precautions for spill control of contaminated media including soils and decontamination fluids in accordance with the spill prevention plan.



### 13.7 Heat Stress

Special consideration shall be given to personnel showing signs of heat stress. The following guidelines in first aid and medical procedures shall be used:

**Heat Rash** can be caused by continuous exposure to hot and/or humid air. The condition is characterized by a localized red skin rash and reduced sweating. The treatment includes keeping skin hygienically clean and allowing the skin to dry thoroughly after using protective clothing.

**Heat Cramps** can be caused by profuse perspiration with inadequate fluid intake and salt replacement. This condition is characterized by muscle spasm and pain in the extremities and abdomen. The treatment involves removing the victim to a cool place and providing sips of salted water (one teaspoon of salt in one quart of water). Manual pressure may also be applied to the cramped muscles.

**Heat Exhaustion**, a mild form of shock, can be caused by substantial physical activity in heat and profuse perspiration without adequate fluid and salt replacement. The symptoms include weak pulse; shallow breathing; pale, cool, moist skin; profuse sweating; dizziness; and fatigue. The treatment involves removing the victim to a cool place and removing as much clothing as possible. Give sips of salted water and fan the victim continuously to remove heat by convection. Do not allow victim to become chilled. Treat for shock as necessary.

**Heat Stroke**, the most severe form of heat stress, can be fatal. The symptoms include red, hot, dry skin; body temperature of 105°F or greater; no perspiration; nausea; dizziness and confusion; strong rapid pulse; coma; and death. Heat stroke is a true medical emergency. The treatment involves removing as much clothing as possible and wrapping the victim in a sheet soaked with water. Apply cold packs, if available, under arms, around neck, or on another body part where the packs can cool large surface blood vessels. If convulsions develop, prevent victim from biting tongue. Transport the victim to an emergency medical facility. If transportation to a facility is not possible, immerse the victim in an ice water bath. Do not over chill the victim once the body temperature is reduced to below 102°F.

## **14.0 TRAINING REQUIREMENTS**

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### **14.1 Site Personnel**

All Site personnel, including ENV America employees, subcontractor personnel, visitors, vendors, etc., are responsible for complying with all health and safety requirements included in this HSP.

All Site personnel, contractors, and subcontractors shall meet the appropriate regulatory requirements, and shall follow the Site specific requirements contained within this HSP. Failure to familiarize and adhere to these provisions may result in removal of the individual from the Site activities and possible termination of contractual obligations. All personnel employed on this project shall, at a minimum have successfully completed the 40-hour hazardous waste workers training and annual 8-hour refresher training as specified in 29 CFR 1910.120. The Project and Site Managers should also have successfully completed 8-hour supervisory training. The training shall include, as a minimum, health hazard recognition training, physical agent (safety training), respiratory protection training, equipment training, safe work practices, and personal hygiene. Personnel trained for first aid/CPR shall be identified. Certifications of completion of training and participation of medical surveillance will be kept onsite in the Site Manager's file at ENV America.

### **14.2 Initial Site Safety Meeting**

All personnel involved in any field activities of this project will attend an initial task safety briefing performed by the Health and Safety Officer or his designee. The briefing will occur prior to the beginning of onsite activities. The briefing will include as a minimum, discussion on restricted areas, the nature of the potential residues at the Site, donning personal protection equipment, decontamination procedures, respirator fit testing, and emergency procedures. This briefing will occur onsite.

### **14.3 Tailgate Safety Meetings**

The tailgate safety meeting will be conducted prior to the start of the field activities. If conditions of the work or personnel change during the course of the field work, a new tailgate safety meeting may be convened. The meeting will be documented using the "Tailgate Safety Meeting Form" included in Exhibit E - Applicable Site Health and Safety Forms. No employee will commence work if he has not attended the tailgate safety meeting. The short tailgate safety meeting will cover items such as:

- Expected physical and environmental conditions at the Site;
- Planned daily activities and objectives;
- Safety deficiencies previously observed;
- Decontamination procedures; and
- Personal and area monitoring strategies.

## 15.0 MEDICAL SURVEILLANCE PROGRAM

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The objectives of a medical surveillance program are:

- to establish a baseline physical examination status of health to which future medical changes can be compared;
- to identify and analyze illnesses or conditions that may be aggravated by exposure to hazardous materials, physical agents, other stressors, job activities, or any combination of one or more; and
- to allow for recognition of any abnormalities at the earliest reasonable opportunity and so that corrective measures can be implemented.

All employees have received baseline and periodic physicals according to 29CFR 1910.120(f). Records are kept in files in the office.

- a copy of the U.S. Department of Labor, OSHA, Hazardous Waste Operations and Emergency Response; Final Rule;
- a description of the employee's duties as they relate to the employee's potential exposures;
- the employee's exposure levels or anticipated exposure levels;
- a description of the personal protective equipment which shall be used by the employee; and,
- information from previous medical examinations of the employee which are not readily available to the examining physician.

Each employee shall be provided with a copy of a written opinion from the examining physician containing the following:

- the physician's opinion as to whether the employee has any detected medical condition which would place the employee at an increased health risk, given anticipated exposures;
- the results of the medical examination and tests;
- the physician's recommended limitations, if any, concerning the employee's assigned work;
- a statement that the employee has been informed by this physician of the results of the medical examination and any medical conditions which require further examination or treatment; and,
- Certifications of completion of participation in medical surveillance will be kept at the ENV America office.

## 16.0 RECORD KEEPING

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Records shall be kept consistent with all applicable OSHA regulations. The following records will be maintained at the offices of each subcontractor:

- Hazard Communication and Hazardous Waste Site training
- Respiratory Protection Training (and proof of annual fit testing)
- Respirator Assignment
- Medical Surveillance
- Site Safety Inspection Reports
- Personal Monitoring Records
- Accident Logs and OSHA Logs

The following records will be maintained by the Project Manager and each subcontractor Site Manager at the Site and/or the corporate offices as appropriate:

- Site Entry Log
- Worker illness and/or injury reports
- Visitors
- Work Plan (progress and changes)
- Accident Log
- Telephone conversations
- HSP (and changes)
- Site Safety Inspection Reports
- Sampling activities
- Daily work activities and conditions
- Chain of Custody forms
- Decontamination Log (as applicable)
- Emergency Action forms
- Tailgate Safety Meeting forms

All subcontractors shall be responsible to maintain their employee records in a manner consistent with the applicable regulations.

## **TABLES**

**TABLE H-1**

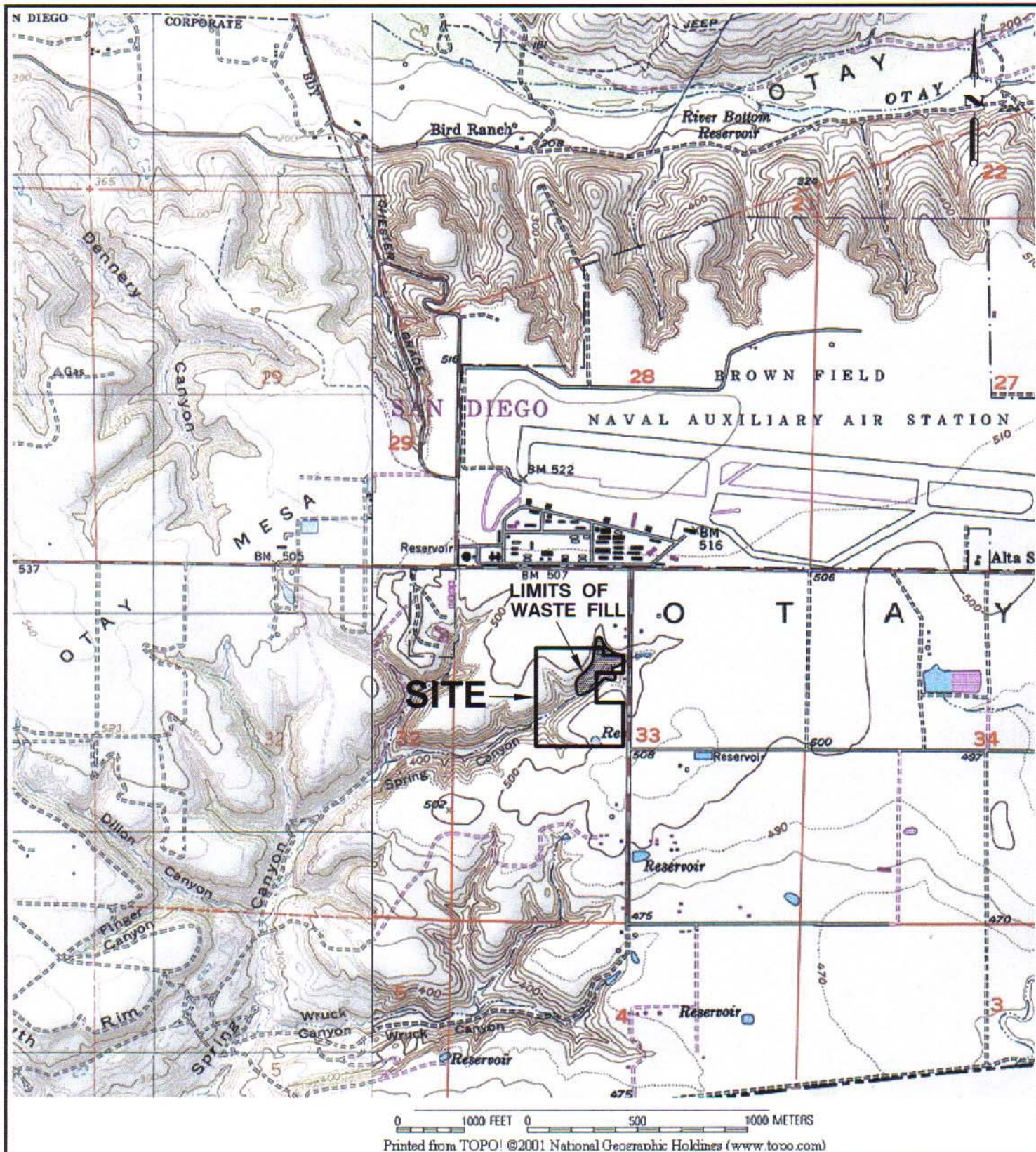
**ACTION LEVELS AND ACTION TO BE TAKEN**

<u>Device</u>	<u>Reading</u>	<u>Location</u>	<u>Time Period</u>	<u>Action</u>
OVA	<5 ppm	Working face	-----	Continue hourly monitoring.
OVA	>5 ppm	Working face	≥ 1 minute	Stop work, proceed to next sample location.
OVA	1-2 ppm	Working breathing	-----	Increase monitoring frequency. Monitor every half hour.
OVA	>2 ppm	Worker breathing zone	≥ 1 minute	Stop work; move upwind while vapors dissipate. If elevated levels remain, cover borings and spoils, evacuate upwind and notify Site Manager.
Mini-Ram	<0.5 mg/m <sup>3</sup>	Work area		Level D: Monitoring every half hour. Level C: Full face APR with HEPA/organic cartridges. Increase monitoring frequency. Stop work. Evacuate upwind and notify Site Manager.
	>0.5 mg/m <sup>3</sup>	Work area		
	>10.0	Work area		
Mini-Ram	<2.5 mg/m <sup>3(a)</sup>	Working breathing zone	≥ 1 minute	Implement dust control.
	>2.5 mg/m <sup>3</sup>	Worker breathing zone	≥ 1 minute	Stop work.
Sound Level Monitor	>85 dBA	Anywhere	Instantaneous	Don hearing protection.

<sup>(a)</sup>Based on Cal-OSHA ½ respirable particulate permissible exposure limit (PEL)



## FIGURES



#### REFERENCE:

7.5 MINUTE U.S.G.S. TOPOGRAPHIC MAPS OF:  
 - IMPERIAL BEACH, CALIFORNIA - BAJA CALIFORNIA NORTE, DATED 1967, PHOTOREVISED 1975.  
 - OTAY MESA, CALIFORNIA, DATED 1955, PHOTOREVISED 1971, PHOTO INSPECTED, 1975.  
 ORIGINAL SCALE ON BOTH MAPS: 1 INCH = 2,000 FEET.



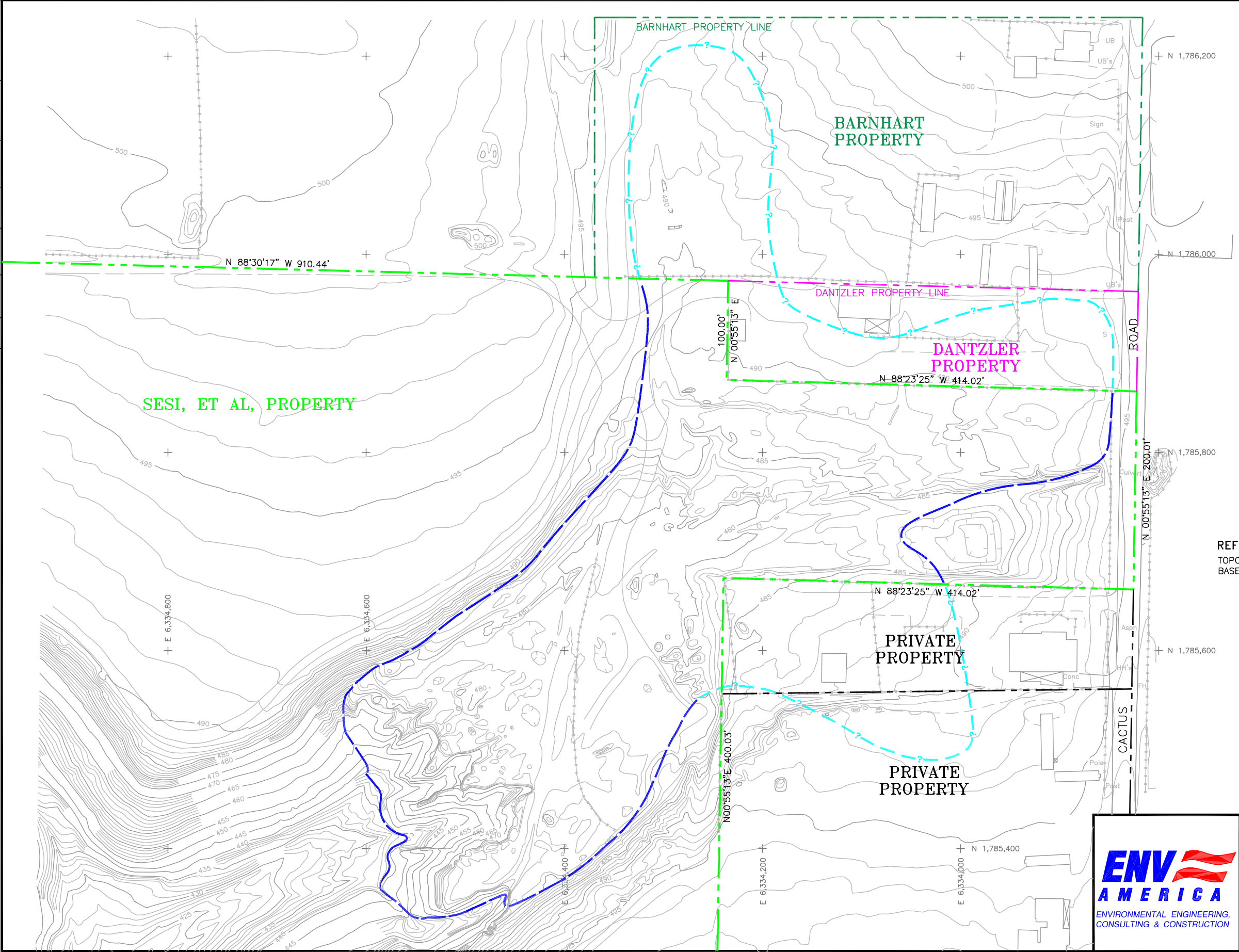
FIGURE H-1

#### SITE LOCATION MAP

SESI PROPERTY CLOSURE PROJECT  
 OTAY MESA, SAN DIEGO

DRAWN BY	DP	CHECKED BY	FILE NAME	LOCMAP H-1
BY	11/11/98	APPROVED BY	PROJECT NUMBER	MCU01T001.210





LEGEND

- APPROXIMATE LIMIT OF WASTE PLACEMENT AT SESI PROPERTY
- ESTIMATED LIMITS OF FORMER CANYON
- PROPERTY LINE
- FENCE
- GROUND SURFACE CONTOUR IN FEET ABOVE MEAN SEA LEVEL DATED 1994
- STATE PLANE COORDINATE

REFERENCE:  
TOPOGRAPHIC MAP PREPARED BY ZENITH AERIAL, INC.,  
BASED ON AERIAL PHOTO DATED 10/12/94.

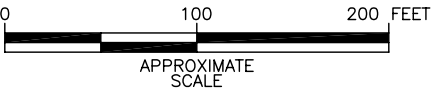


FIGURE H-2

SITE PLAN

SESI PROPERTY CLOSURE PROJECT  
OTAY MESA, SAN DIEGO

**EXHIBIT H-A**

**CHEMICALS THAT MAY EXIST IN THE SITE SOILS**

## **EXHIBIT H-A**

### **CHEMICALS THAT MAY EXIST IN THE SITE SOILS**

#### **METALS**

Several metals have been detected at the Site. The most important of these are as follows.

##### ***Arsenic***

PEL = 0.010 mg/m<sup>3</sup>

Arsenic toxicity expresses itself with ulceration of the nasal septum, gastrointestinal disturbances, respiratory irritation. Target organs include the liver, skin, kidneys, lungs, and the lymphatic system.

##### ***Copper***

PEL = 1 mg/m<sup>3</sup>

Copper toxicity expresses itself with nasal, mucous membrane, eye and throat irritation. Target organs include the respiratory system, skin, liver, and kidneys.

##### ***Lead***

PEL = 0.05 mg/m<sup>3</sup>

Lead toxicity expresses itself with gastrointestinal disturbances, central nervous system degenerates, nephritis, and red blood cell abnormalities. Chronic exposure can be detected by among other systems, a lead line, which is a bluish-black stippling of the margin of the gums.

#### **VOLATILE ORGANIC COMPOUNDS**

Monocyclic aromatics, in general, cause central nervous system depression (i.e., headache, dizziness, nausea, fatigue, and incoordination) if inhaled. The four specific monocyclic aromatics that might be detected in soils at the Site are benzene, ethylbenzene, toluene and xylenes. Benzene is classified by the USEPA as a known human carcinogen, having been linked with leukemia as a result of occupational exposures. The other three compounds (ethylbenzene, toluene, and xylenes) are not considered to be carcinogens, but exposure can result in liver damage and fetal toxicity.

## ***Benzene***

PEL = 1 ppm

STEL = 5 ppm

Benzene is a central nervous system depressant. Symptoms include headache, nausea, tremors, and fatigue, but these typically do not occur until exposure concentrations are in excess of 150 ppm. There is significant evidence that chronic exposures are carcinogenic, causing a progressively malignant disease of the blood-forming organs (leukemia). Benzene is poorly absorbed through intact skin, but can cause transient eye irritation. The mean air-odor threshold for benzene is 12 ppm, which yields unsatisfactory warning properties. Benzene's ionization potential (IP) is 9.25 eV.

## ***Toluene***

PEL/TLV = 50 ppm

STEL = 150 ppm

Toluene is a central nervous system depressant. Symptoms include headache, nausea, dizziness and fatigue, but such symptoms typically do not occur at exposures below 200 ppm. Repeated and prolonged contact with liquid toluene may cause drying of the skin and dermatitis. Mild, transitory eye irritation may be experienced with exposure to vapors above 200 ppm. Toluene is not considered carcinogenic. Toluene's mean air-odor threshold is 3 ppm, which gives it excellent warning properties. Toluene's ionization potential (IP) is 8.82 eV.

## ***Xylene (o-, m-, and p-isomers)***

PEL/TLV = 100 ppm

STEL = 150 ppm

Xylene isomers are eye, nose, and throat irritants at concentrations nearing 200 ppm. At higher concentrations, they are central nervous system depressants, with symptoms including nausea, fatigue, and headaches. Liquid xylenes act on the skin as an irritant and can cause dermatitis. Exposure to vapor can cause eye irritation. Xylenes are not considered carcinogenic. Xylenes mean air-odor threshold is 1 ppm, which gives them excellent warning properties. The ionization potential for the Xylene isomers are 8.56, 8.56, and 8.44 eV, respectively.

## ***Tetrachloroethene (PCE)***

PEL = 25 ppm (170 mg/m<sup>3</sup>)

PCE is an eye and skin irritant and affects the central nervous system. It is a depressant and causes dizziness, possible liver and kidney damage.

### **NOTES:**

PEL = Permissible Exposure Limit

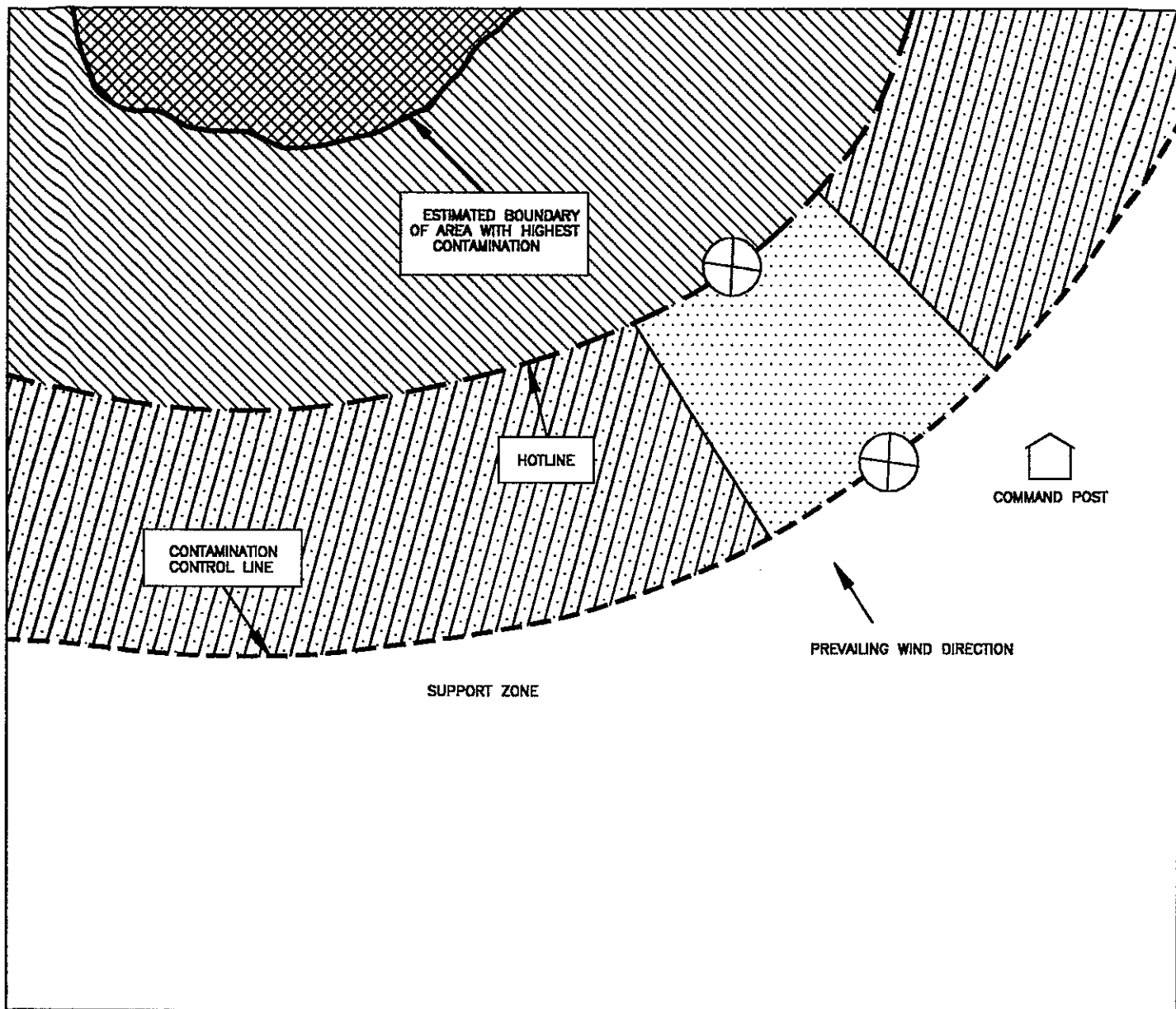
TLV = Threshold Limit Value (ACGIH Guidance)

STEL = Short-Term Exposure Limit (ACGIH Guidance)

## **EXHIBIT H-B**

### **GENERIC SCHEMATIC OF THE WORK ZONES**

D:\HEALTH\H\00000  
 FILE NAME  
 CHECKED BY  
 12/14/00  
 APPROVED BY  
 DRAWN BY



EXPLANATION	
	ACCESS CONTROL POINTS
	CONTAMINATION REDUCTION CORRIDOR
	CONTAMINATION REDUCTION ZONE (CRZ)
	EXCLUSION ZONE

NOTE: AREA DIMENSIONS NOT TO SCALE.  
DISTANCES BETWEEN POINTS MAY VARY.

#### REFERENCE:

OCCUPATIONAL SAFETY AND HEALTH GUIDANCE MANUAL FOR  
HAZARDOUS WASTE SITE ACTIVITIES,  
NIOSH/OSHA/USCG/EPA.

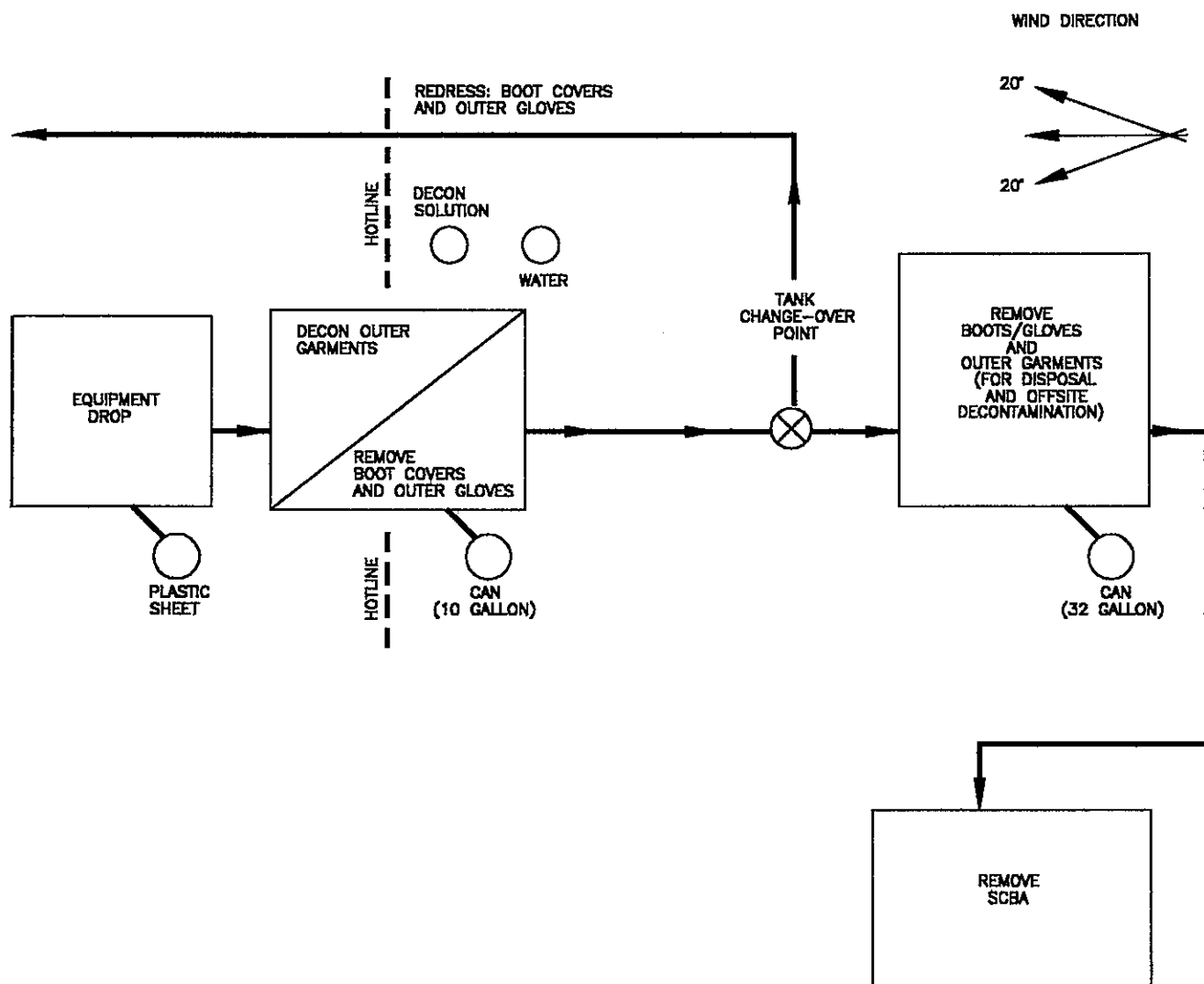
**ENV**  
**AMERICA**  
 ENVIRONMENTAL ENGINEERING,  
 CONSULTING & CONSTRUCTION

#### GENERIC SCHEMATIC OF WORK ZONES



**EXHIBIT H-C**

**DECONTAMINATION LAYOUTS**



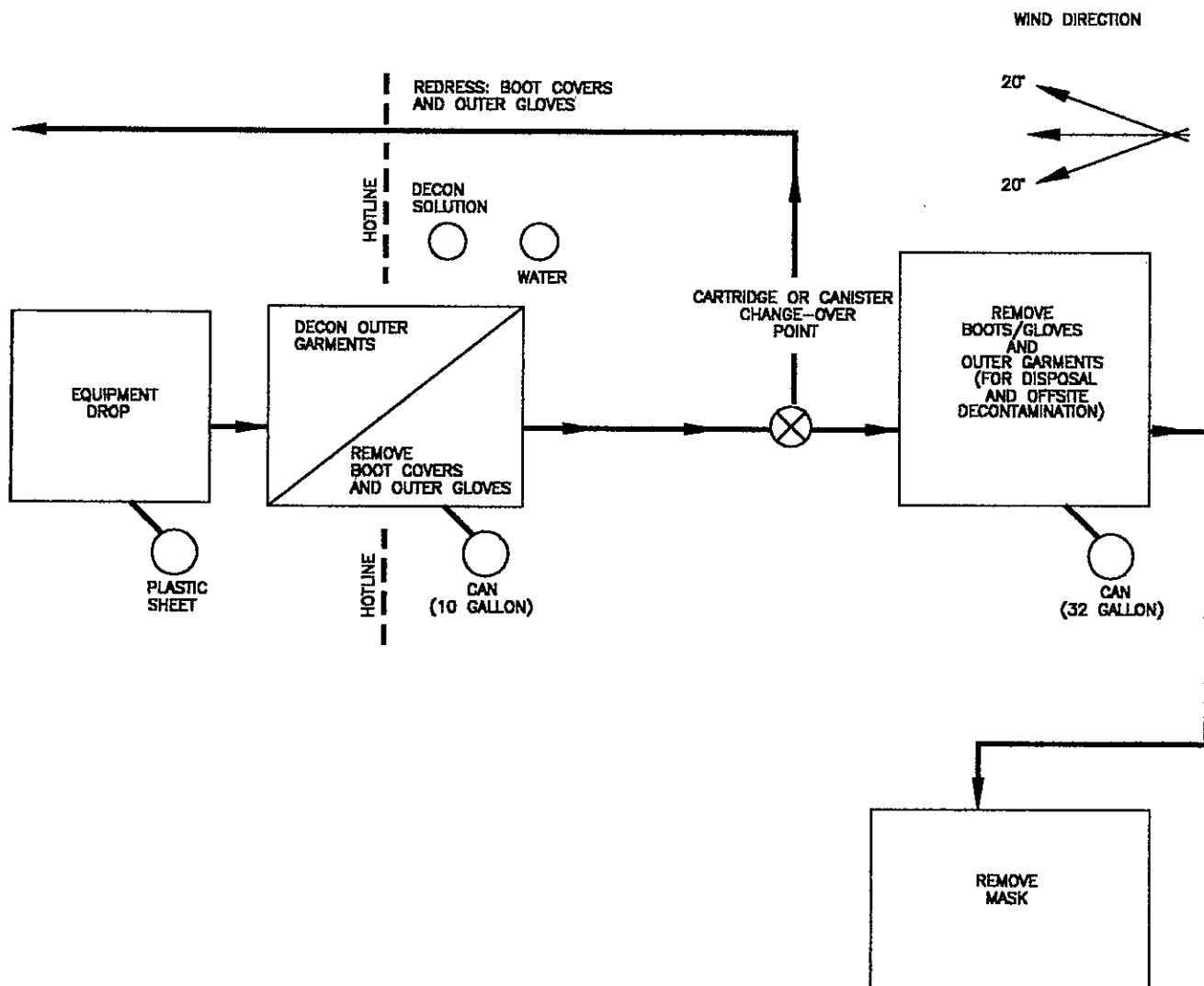
**REFERENCE:**

**OCCUPATIONAL SAFETY AND HEALTH GUIDANCE MANUAL FOR  
HAZARDOUS WASTE SITE ACTIVITIES,  
NIOSH/OSHA/USCG/EPA.**



**ENVIRONMENTAL ENGINEERING,  
CONSULTING & CONSTRUCTION**

# MINIMUM DECONTAMINATION LAYOUT LEVEL B PROTECTION



**REFERENCE:**

OCCUPATIONAL SAFETY AND HEALTH GUIDANCE MANUAL FOR  
HAZARDOUS WASTE SITE ACTIVITIES,  
NIOSH/OSHA/USCG/EPA.



**MINIMUM DECONTAMINATION  
LAYOUT  
LEVEL C PROTECTION**

**EXHIBIT H-D**

**EMERGENCY TELEPHONE NUMBERS  
AND HOSPITAL LOCATION MAP**

## LIST OF EMERGENCY NUMBERS AND HOSPITAL ROUTE

**Phone Number**

**Hospital:**    **Scripps Memorial Hospital**    ..... (619) 691-7000  
                   **425 H Street**  
                   **Chula Vista, California**

Fire: ..... 911

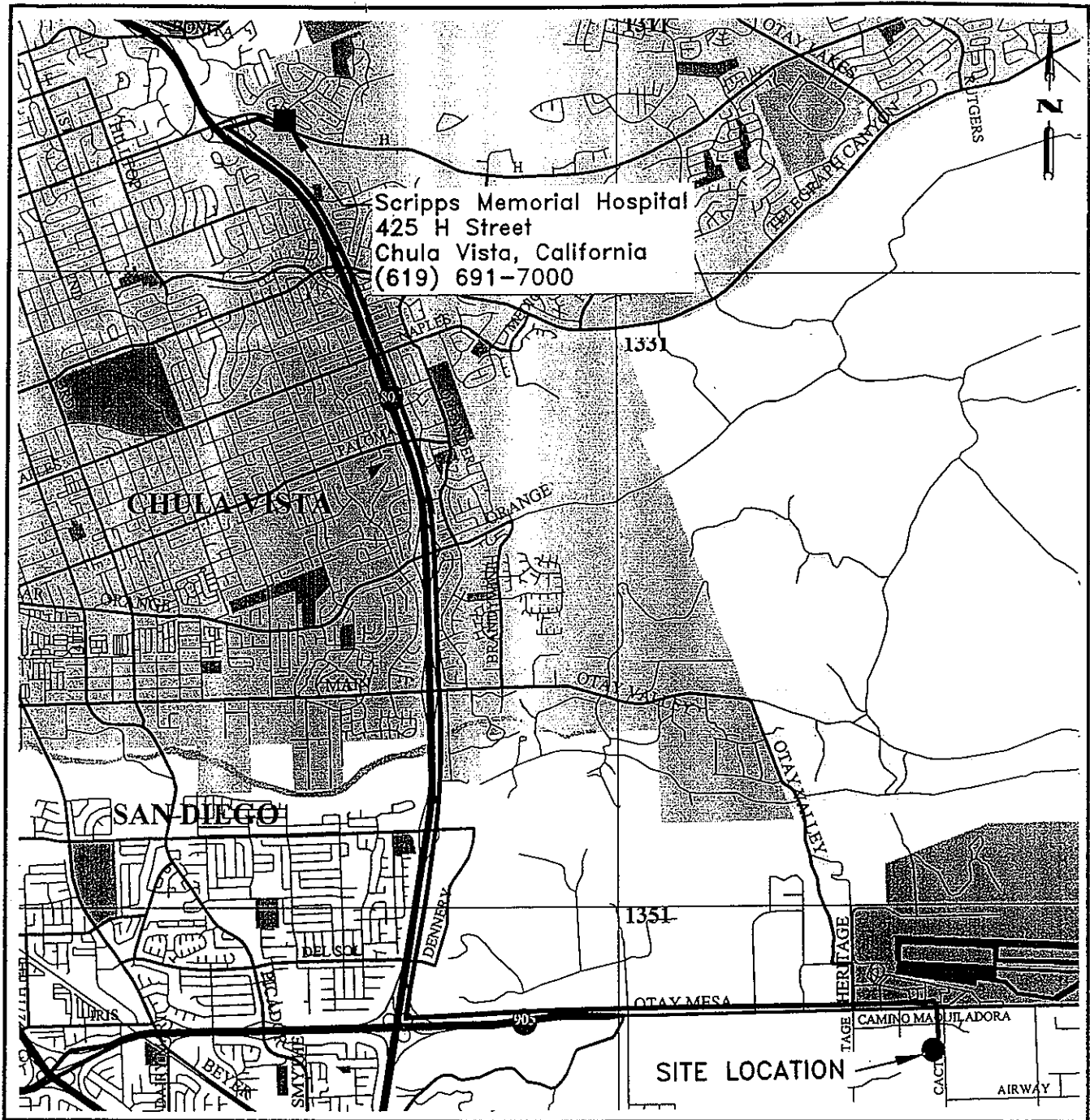
**USEPA Spill Line . . . . . (800) 424-9346**

**USEPA Superfund/RCRA Hotline . . . . . (800) 424-8802**

**National Response Center . . . . . (404) 639-3311(day)**  
**(404) 329-2889(night)**

## Project Personnel

James A. Larwood, C.E.G., ENV America ..... (949) 453-9191  
 Pager (949) 637-0848



#### REFERENCE:

"THOMAS BROS. MAPS", 1996, GEOFINDER FOR WINDOWS

**ENV**  
**AMERICA**

ENVIRONMENTAL ENGINEERING,  
CONSULTING & CONSTRUCTION

#### ROUTE TO HOSPITAL

SESI PROPERTY CLOSURE PROJECT  
OTAY MESA, SAN DIEGO

**EXHIBIT H-E**

**APPLICABLE SITE HEALTH AND SAFETY FORMS**

**ENV AMERICA INCORPORATED  
INSTRUMENT CALIBRATION LOG**

**PROJECT NAME:**  
**PROJECT LOCATION:**  
**DATE:**

Person Calibrating:	Calibration Gas:
Instrument Type:	Cal. Gas Concentration:
Model/Serial No.:	Reading:
Comments:	Adjusted Reading:
Person Calibrating:	Calibration Gas:
Instrument Type:	Cal. Gas Concentration:
Model/Serial No.:	Reading:
Comments:	Adjusted Reading:
Person Calibrating:	Calibration Gas:
Instrument Type:	Cal. Gas Concentration:
Model/Serial No.:	Reading:
Comments:	Adjusted Reading:



**SITE:**  
**LOCATION:**  
**DATE:**

[illegible]

**ENV AMERICA INCORPORATED**

**HEALTH AND SAFETY PLAN REVIEW**

- ▶ I have reviewed this health and safety plan for the \_\_\_\_\_ site and understand the hazards and control measures required on this project
- ▶ I agree to follow the procedures outlined in this plan and to inform the Project Manager and/or Health & Safety Officer should any unsafe condition be noted
- ▶ I understand that failure to follow safety regulations can be reason for removal from this project

DATE	NAME (Please Print)	SIGNATURE	COMPANY